VanKIRAP is making climate information more accessible in Vanuatu. Read our latest project update.

Images not loading? View in a web browser

Vanuatu Klaemet Infomesen blong Redi, Adapt & Protekt / Climate Information Services for Resilient Development in Vanuatu Project



VanKIRAP Project Update

November–December 2022



Seasons' Greetings from the VanKIRAP team. We hope you have a safe and enjoyable Christmas. We look forward to bringing you new and exciting climate information services in 2023!



FISHERIES SECTOR

Ocean climate monitoring buoys deployed in Tafea Province

Climate change impacts Vanuatu's marine resources. Sea level rise, warmer ocean temperatures and ocean acidification affect coastal communities that are heavily reliant on the ocean for their food and their livelihoods.

To help monitor how climate change is affecting Vanuatu's inshore waters, VanKIRAP is installing a network of ocean climate monitoring buoys around the country.

Last October, two additional buoys were deployed in Tafea Province near Anelghowat, Aneityum and Port Resolution, Tanna. The buoys contain scientific instruments that collect data in real time data on sea surface temperature, wind direction and wave height. They send this data back via satellite to VMGD and the Dept of Fisheries who analyse and respond to any sudden changes that the buoys are observing.

The VanKIRAP Project's objective in the Fisheries sector is to help improve food security and livelihoods of coastal communities by using climate information to respond to the effects of marine heatwaves, fish kills, ocean acidification, and sea level rise on coastal fisheries.

VanKIRAP Fisheries Sector Coordinator Nastasia Shing explains that buoys are essential because the information they collect is used to produce early warning advisories, bulletins and other climate information services that help local fishers and communities make decisions about their marine resources.

During the deployments off Tanna and Aneityum, a team from VanKIRAP and Dept of Fisheries team conducted community awareness consultations to educate community members about why the buoys are being installed and how they can help local communities. Shortly before each deployment, the team also carried out a site survey at each location to collect bathymetry information so the best location for anchoring each buoy could be identified. VanKIRAP is deploying a total of six climate monitoring buoys around Vanuatu. Five have been installed already at Hog Harbour, Million Dollar Point (Espiritu Santo), Paradise Cove (Efate), and the two buoys just deployed in Tafea Province. The last buoy will be deployed in early 2023 off Tomman island, Malekula.



INFRASTRUCTURE SECTOR

Ni-Vanuatu drone pilots gain professional certification through VanKIRAP

Vanuatu's Public Works Department (PWD) currently lacks the capability to assess whether a planned infrastructure site is likely to be affected by climate change-caused sea level rise, extreme rainfall or storm surges.

VanKIRAP is addressing this by providing a Lidar drone that can scan an area and create a detailed 3D scan of the area that can be combined with existing inundation maps so that PWD can pinpoint the most optimal locations for new infrastructure projects.

As part of this support, between 20 October–1 November, VanKIRAP Infrastructure Sector Coordinator Raviky Talae and PWD Assistant Surveyor Arty Iman travelled to Auckland, New Zealand to attend a professional drone piloting course.

The course included modules on topics such as civil aviation rules, airspace, and measuring drone altitude, and also included a practical flight test using different types of drones.

The test was assessed by Chris Jackson, Flight Standards Manager for NZ company Aviation Safety Management Systems.

Upon completion of the test, the two newly-minted ni-Vanuatu drone pilots were awarded Remotely Piloted Aircraft Systems (RPAS) Pilot Certifications.

Raviky Talae says that this is a great achievement for the VanKIRAP Project and the Ministry of Infrastructure.

"I'm proud to be one of two professionally certified ni-Vanuatu drone pilots. I can use my skills to fly the drone and collect data that enables PWD engineers to use climate information in the design of infrastructure like roads and bridges."

"With better data, infrastructure can be built that are more suitable for local conditions and more resilient to the impacts of climate change."



AGRICULTURE SECTOR

Field Day shows effectiveness of traditional knowledge & practices for preventing Taro Beetle infestation

Erangorango farmers were fortunate to be part of a field day held 2 November at the Department of Agriculture and Rural Development's Tagabe Agriculture Farm on Efate. The Field Day was intended to demonstrate the effectiveness of traditional practices at reducing taro beetle infestation of island taro crops.

Agriculture Sector Coordinator for VanKIRAP Pakoa Leo says "island taro is a popular root crop that many farmers are eager to plant, but the impact of taro beetle has demoralized many of them as taro beetle because it is a huge problem in Vanuatu." Mr Leo added that as a result of a survey on traditional knowledge (TK) conducted in 2020–2021, demonstration plots were established using these TK practices.

"10 different TK practices were applied to the demonstration taro plots, including the use of nambagura fruits, nambalango fruits and wild kava".

"The results of these TK practices were outstanding. They show that they are effective at controlling taro beetle. Only three out of ten taro corms were infested by the beetle. The other seven TK-based treatments successfully controlled the taro beetle", says

The farmers were able to access useful information as well on climate, weather and the impacts of climate change on weather conditions and how these impact crop growth.

"Now that these results have been observed and evaluated to identify the best TK practices, farmers throughout Vanuatu will be able to apply them on their crops to reduce the impacts of taro beetle."



INTERNATIONAL DAY FOR DISASTER RISK REDUCTION 2022

Great turn out to celebrate International Day for Disaster Risk Reduction 2022, Eton village

A bigfala tankyu tumas to all of the people who came to visit VanKIRAP's booth at Vanuatu's celebration of the International Day for Disaster Risk Reduction 2022 held at Eton village, Efate 3-4 November. 400-500 people, mostly from rural areas, attended the event, including many school groups.

VanKIRAP gave out climate information material and held a number of demonstrations of the DJI Lidar drone, which was also shown on national broadcaster Televisen Blong Vanuatu.

Event organisers the National Disaster Management Office (NDMO) livestreamed VanKIRAP's displays via their Facebook page.



TRADITIONAL KNOWLEDGE

Training workshop on using sciencebased models to enhance traditional climate knowledge

Traditional knowledge (TK) about weather and climate is the main way that people in Vanuatu manage their environment and predict natural disasters. People make their own predictions about weather and climate variables based on knowledge accumulated over thousands of years of observation, passed down from one generation to the next.

Some traditional knowledge has been lost since European colonisation and missionisation. Today, however, climate change is the main threat. The rapid changes in our environment brought about by climate change are causing some of the plant and animal species to modify their behaviours and habitats. When these plants and animals are traditionally used as indicators for particular weather or climate events, this can affect the reliability of those traditional indicators.

VanKIRAP is paying close attention to this issue. VanKIRAP's traditional knowledge team is examining and verifying the reliability of traditional knowledge indicators in the face of rapid climate change, and combining TK with 'western' scientific methods to produce integrated climate information products for communities around Vanuatu.

Last month, the VanKIRAP Traditional Knowledge Sector team, together with VanKIRAP's sector coordinators and staff from the Vanuatu Meteorology and GeoHazards Department (VMGD) received training in how to validate and integrate TK indicators using climate models.

The training was facilitated by Dr. Lynda Chambers from Australia's Bureau of Meteorology (BOM) at the Grand Hotel in Port Vila 10-11 November.

The training gave guidance on how to use BOM's Seasonal Climate Outlooks in Pacific Island Countries (SCOPIC), a decision support tool which generates seasonal outlooks for rainfall, temperature, or other climate-related factors.

The SCOPIC software uses a statistical method to determine forecast probabilities, based on historic data. Trainees were shown how to the forecasts made using SCOPIC's climate models with forecasts made using TK indicators.

VanKIRAP Traditional Knowledge Sector Coordinator Albert Willy, says that the training is very useful because it "provides the necessary skills that help me to validate and verify the TK indicators at VanKIRAP target sites in Sanma and Shefa, and across the country".

Mr Mickey Jella, VMGD's Traditional Knowledge Officer, says that the VanKIRAP/VMGD TK team is currently verifying TK indicators at two Project sites – Varsu Area Council on Epi, and Big Bay on the island of Santo.

Once the TK indicators have been validated using SCOPIC, a national TK guidebook will be launched in 2023. The guidebook will be in Bislama and will detail all of the TK indicators for weather and climate that are commonly used in Vanuatu.

Training also enhances skills using other climate prediction tools

In addition to SCOPIC, participants also received training on the use of different climate modelling tools from the Republic of Korea-Pacific Islands Climate Prediction Services Project, based at SPREP.

The Climate ToolKIT for the Pacific (CliKP) enables forecasters to generate customised climate predictions based on multiple climate models, on seasonal to annual timescales. Forecasts generated by CliKP are combined with the past performance of each forecast, for greater accuracy.

PICASO (Pacific Islands Climate Advanced Seasonal Outlook), is another tool that allows forecasters to use multi-model ensemble data to generate tailored local forecasts for each province or weather station.

The training facilitator of the includes Tile Tofaeono from the CliPSCo. Attendees also received presentations from Philip Mansale, a ni-Vanuatu climatologist at COSPPac in Apia, Samoa, and Dr Lynda Chambers from BoM.



RAINFALL PREDICTION

VanKIRAP partner Bureau of Meteorology provides training in Early Action Rainfall Watch product

Early Action Rainfall (EAR) Watch is a climate information product produced by VMGD that shows provides seasonal monitoring and prediction of rainfall in a monthly bulletin. The main purpose for the EAR Watch tool is to give Vanuatu Government and civil society disaster management organisations information about upcoming periods of prolonged drier or wetter conditions. EAR Watch also provides an alert system that enables stakeholders to recommend actions and general preparedness measures based on different alert levels.

The Vanuatu Meteorology and Geohazards Department (VMGD) and colleagues from Australia's Bureau of Meteorology (BoM) organised a two-day training workshop on EAR Watch for the national disaster management stakeholders at the Melanesian Hotel, Port Vila, 21-22 November.

The objective of the workshop was to train stakeholders to be able to understand and interpret the seasonal and sub-seasonal extreme rainfall and impact information contained in the EAR Watch bulletins.

The training also gathered feedback from disaster management stakeholder groups such as women, youth and disabled people, to identify additional communication products better suited to their informational needs.

The training was facilitated by Clare Mullen from the Bureau of Meteorology (BoM) and Glenda Pakoa from VMGD. Participants included staff from Vanuatu Red Cross Society, National University of Vanuatu, Fisheries Department, and Vanuatu Society for People with Disability.



APEC CLIMATE CENTRE VISIT

More "accurate, reliable and timely climate information" helps Vanuatu farmers adapt to climate change

Agriculture is one of Vanuatu's most important sectors, yet one of the most vulnerable to climate change, because crops require optimal conditions to thrive. When climate-related extreme events like cyclones, flooding and drought affect soil quality and crop yields, they also affect the food security of the whole nation.

To tackle this problem, VanKIRAP is giving Vanuatu's farmers access to new tools with the ability to accurately assess how local weather and climate conditions may affect their crops.

VanKIRAP's partner, the <u>APEC Climate Center (APCC) based in Busan, South Korea</u> is providing new tools that expand the range of 'agro-climate' services available to Vanuatu's farmers, and a delegation from APCC recently visited Vanuatu to support this work.

Led by APCC Executive Director Mr Do-Shick Shin, the delegation visited APCC and VanKIRAP's joint agricultural climate risk management initiatives in the field, and held discussions with the Vanuatu Government on further cooperation in agro-climate services.

Executive Director Shin held a high-level meeting on 7 December at the Grand Hotel in Port Vila with Vanuatu's Minister for Agriculture, Livestock, Forestry, Fisheries and

Biosecurity (MALFFB), the Honourable Nakou Natuman and a delegation that included the Directors of the Department of Livestock and the Department of Agriculture and Rural Development (DARD).

At the meeting, APCC Executive Director Shin noted that "accurate, reliable and timely climate information" is key to improving the resilience of Vanuatu's agriculture sector to extreme climate events.

Minister Natuman said APCC's partnership with VanKIRAP is "highly relevant to Vanuatu's priorities". Moreover, he said, APCC's support was pertinent not just because of Vanuatu's vulnerability to climate-related weather events, but also because Vanuatu is the "first small island state in the world to declare a climate emergency".

The APCC delegation also facilitated a training session with some of APCC's agroclimate tools and travelled to Santo to visit agricultural field stations, visit farmer 'champions' near Luganville, and conduct agro-climate tool training with Santo farmers.

The APCC delegation concluded their mission with a visit to USP Emalus campus to discuss a collaboration with alumni on soil sampling.



VMGD

VMGD & VanKIRAP receives official visit from new Minister for Climate Change

Vanuatu's newly appointed Minister for Climate Change Adaptation, Meteorology, Geohazards, Environment, Energy and National Disaster Management, the Honourable Ralph Regenvanu made his first official visit to the Vanuatu Meteorology and Geohazards Department on Friday 9 December.

The Minister received briefings on VMGD's work programs from the Director and senoir managers, and was also updated on the work of projects implemented by VMGD,

including VanKIRAP.

VMGD's Project Manager for VanKIRAP, Moirah Matou, gave a brief presentation to the Minister on VanKIRAP's recent achievements.



INFRASTRUCTURE SECTOR

Vanuatu gains new Lidar drone capability for infrastructure planning thanks to VanKIRAP

For the first time ever, a Vanuatu Government department has a Lidar drone that it can use to improve the resilience of Vanuatu's infrastructure, thanks to VanKIRAP.

Last week, VanKIRAP and its partner VMGD officially handed over a DJI 300RTK drone equipped with Lidar and photogrammetry scanners to the Vanuatu Public Works Department (PWD). The ceremony took place on 9 December at the VMGD office.

With this drone, PWD now has the ability to capture high resolution 3D scans of any location in Vanuatu. From the scans, PWD can produce 3D models of a planned installation site of a road, bridge or wharf, and can merge these models with digital inundation maps that show how flooding and sea level rise might affect that location under different future scenarios.

Raviky Talae, VanKIRAP's Infrastructure Sector Coordinator, says the new drone "can provide mapping and digital elevation models" with its photogrammetry and Lidar scanners, and that PWD will use these models to "design infrastructure projects that will resist the impacts of climate change-related events".

Director of VMGD Montin Romone says "this initiative of VanKIRAP connects the infrastructure sector to the climate information services that address a key needs of Vanuatu's people – climate resilient infrastructure".

Deputy Director of PWD Andre latipu says the new drone will help improve PWD's road designs so that they "are engineered to survive the challenges that climate change is likely to bring Vanuatu".

About VanKIRAP

VanKIRAP (Vanuatu Klaemet Infomesen blong Redy, Adapt mo Protekt) is a project based at the Vanuatu Meteorology and Geohazards Department (VMGD) that is making climate information better, more relevant, and more accessible for people across Vanuatu.

VanKIRAP supports Vanuatu's resilient development by increasing the ability of decision-makers, communities and individuals to plan for and respond to the impacts of climate variability and change, using climate information services (CIS).

VanKIRAP is the Bislama name for the Vanuatu Climate Information Services for Resilient Development Project (CISRDP) project, which is funded by the Green Climate Fund (GCF) and jointly implemented by VMGD and the Secretariat of the Pacific Regional Environment Programme (SPREP).

Find out more <u>here</u> or <u>follow us on Facebook</u>

Not already a subscriber? Click here to subscribe >>>









Vanuatu Klaemet Infomesen blong Redy, Adapt mo Protekt (VanKIRAP) Project

c/o Vanuatu Meteorology and Geohazards Department, Kumul Highway, Nambatu, Port Vila, Vanuatu

VMGD – <u>mmatou@vanuatu.gov.vu</u>

SPREP - <u>sunnys@sprep.org</u>

You have received this email because you are a VanKIRAP stakeholder and have previously given your email address to us, or you have subscribed to VanKIRAP's newsletter previously.

VanKIRAP sends 2-3 email newsletters per month.

Click here to unsubscribe

